

Report to the Legislature

Assembly Bill 2751

Rice Straw Soundwall

Purpose

This report was prepared in accordance with Chapter 656, Statutes of 2002 (AB 2751, Pavley) that added Section 216.5 to the Streets and Highways Code. This statute requires the Department of Transportation (Department) to report to the Legislature on its progress in implementing AB 2751. Section 216.5 further requires the Department to:

construct a demonstration noise attenuation barrier from rice straw, subject to certain conditions and requirements, including a requirement that a manufacturer of an approved rice straw barrier system provides funding to offset any costs beyond that for a standard noise barrier design (the full text of AB 2751 is provided in Appendix 1).

Background

The reduction of rice straw burning in the Sacramento Valley, mandated by the Connelly-Areias-Chandler Rice Straw Burning Reduction Act of 1991, Section 41865 of the Health and Safety Code, has lead to an abundance of rice straw that is available for off-field disposition.

The California Air Resources Board has provided a variety of grants and workshops to promote the development of products made from rice straw as economically viable alternatives to substitute products. Some established uses for rice straw include erosion control, cattle feed, and material for building construction.

Department's Efforts

The Department entered into an interagency agreement with the California Integrated Waste Management Board (Board) to develop a prototype rice straw bale soundwall system and to construct a demonstration project in 1996. This prototype straw bale soundwall system initially received interest from Colusa County for placement at a migrant worker's housing project adjacent to Interstate 5. Funding for this demonstration wall was to be from Colusa County and the Board, via funds included in the Interagency Agreement. Although still interested in the project, Colusa County withdrew their financial support and the funds in the Interagency Agreement were not sufficient to cover construction costs. Alternate locations for the demonstration were considered, however, placements adjacent to the roadway were not feasible because the straw bale prototype wall had not been crash tested and there was a potential safety issue for motorists. As a

result, the construction phase of this project was not pursued and the Interagency Agreement was allowed to lapse, uncompleted.

In recent years, a new industry has emerged that produces prefabricated panels made out of rice straw. These panels are more suitable for the building industry than straw bales since the panel dimensions are more easily integrated with standard construction materials. Numerous buildings have already been constructed with this panel product.

The Department is currently poised to accept submittals of rice straw soundwall systems for review through the Department's New Products Committee. Once a submittal is received and the review process has been satisfactorily completed, the soundwall system would be placed on the Department's list of approved noise barrier systems. The Department would then have one year in which to determine a location to construct a demonstration project using an approved rice straw noise barrier system.

Although several manufacturers have requested the Department's New Projects Evaluations Guidelines, there have been no submittals of rice straw soundwall systems for review.

Summary

The Department will determine an appropriate location for the construction of a demonstration rice straw soundwall system upon industry submittal of a proposal and the subsequent review and approval of a rice straw noise barrier system through the Department's New Products Committee. At this time, there are no rice straw noise barrier systems on the Department's list to consider for placement.

APPENDIX 1 – Assembly Bill No. 2751

Assembly Bill No. 2751

CHAPTER 656

An act to add Section 216.5 to the Streets and Highways Code, relating to highways.

[Approved by Governor September 17, 2002. Filed with Secretary of State September 18, 2002.]

LEGISLATIVE COUNSEL'S DIGEST

AB 2751, Pavley. State highways: soundwalls.

Existing law requires the Department of Transportation to establish a priority system for soundwalls on freeways. Existing law, the Connelly-Areias-Chandler Rice Straw Burning Reduction Act of 1991, limits the burning of rice straw in the Sacramento Valley Air Basin, and prescribes conditions and procedures for the issuance of conditional rice straw burning permits.

This bill would require the Department of Transportation to construct a demonstration noise attenuation barrier from rice straw, subject to certain conditions and requirements, including a requirement that a manufacturer of an approved rice straw barrier system provides funding.

The people of the State of California do enact as follows:

SECTION 1. The Legislature finds and declares the following:

(a) In September 2001, the Rice Straw Burning Reduction Act restricted rice straw burning to burning for disease control purposes only and limited rice straw burning to 25 percent of individual planted acres, subject to a maximum annual allocation of 125,000 acres.

(b) The reduction in rice straw burning mandated by the Connelly-Areias-Chandler Rice Straw Burning Reduction Act of 1991, Section 41865 of the Health and Safety Code, should bear a reasonable relationship to the increase in rice straw uses.

(c) Notwithstanding the statutory requirement that the state produce an implementation plan and a schedule to achieve diversion of not less than 50 percent of rice straw produced toward off-field uses by the year 2000, as of June 2001, only 2 percent of the available rice straw was used off-field.

(d) In 2000, there were approximately 521,000 acres of rice planted in the Sacramento Valley, which could have yielded a potential of 1.17 million tons of rice straw.

(e) Products made from rice straw may be economically viable alternatives to substitute products.

(f) Recycling and reusing rice straw leading to sustainable economic development is a very desirable alternative to the current methods for disposing of rice straw.

(g) Rice fields flooded during the winter provide habitat that is an integral part of efforts to restore historic waterfowl and shore bird populations.

(h) The California Rice Commission has noted that over 141 species of birds, 28 species of mammals, and 24 species of amphibians and reptiles, many of which are categorized by state and federal agencies as endangered or threatened, consider California rice fields home.

(i) Existing means of building soundwalls are costly to the State of California.

(j) It is estimated that the construction costs for all soundwalls range from \$1 million to \$2.4 million per mile. The statewide average cost is approximately \$1.5 million per mile, however, costs are somewhat higher in Los Angeles and other metropolitan areas.

(k) Currently, most soundwalls are constructed with masonry blocks. Recycled plastic materials have been used in several sound wall projects and other projects have used “living wall” construction that involves placing rocks and earth in wire-mesh cages.

SEC. 2. Section 216.5 is added to the Streets and Highways Code, to read:

216.5. (a) The department shall construct at least one demonstration noise attenuation barrier fabricated from rice straw upon meeting the conditions and requirements of this section.

(b) Prior to construction of the barrier specified in subdivision (a) the department shall identify an appropriate location, and shall develop separate cost estimates for constructing a barrier at that location using a standard noise attenuation barrier design and constructing the barrier using the rice straw design.

(c) If a noise barrier system fabricated from rice straw appears on the department's list of approved noise barrier systems, the department shall, within one year, identify a suitable regularly programmed transportation project that includes a noise barrier element for construction of the demonstration noise barrier system. In making its project selection, the department shall consider projected completion schedules for potential candidate projects with the intent of completing the demonstration project expeditiously.

(d) The department shall not be required to construct the rice straw barrier specified in subdivision (a) until all the following have occurred:



(1) A noise barrier system fabricated from rice straw is approved by the department and appears on the department's list of approved noise barrier systems.

(2) Funding has been secured and made available by the manufacturer of the selected rice straw system to offset any additional costs incurred by the department in using the rice straw barrier design based on the cost estimates prepared pursuant to subdivision (b).

(3) A location has been identified for construction of the rice straw barrier system that meets safety, environmental, and related project requirements, and sufficient funding has been programmed and is available for construction of the barrier based on the cost estimate for the standard noise barrier design.

(e) The department may select any approved rice straw barrier system for use in the demonstration project as long as the manufacturer of the selected system secures and provides the required funding specified in paragraph (2) of subdivision (d). In the event that no manufacturer of an approved rice straw barrier system provides the required funding, the department shall not be required to complete the demonstration project.

(f) The department shall, on or before January 1, 2005, transmit to the Legislature a report regarding the implementation of this bill.

